

ABSTRACT

1. Method for determining the distance between two transmitting and receiving stations.

2.1. In automotive engineering transmitting and receiving stations are usually used in keyless locking systems as electronic key modules or evaluation units for identifying the key module. Deactivation of the locking system is prevented, if the key module is not in the immediate vicinity of the evaluation unit. The novel method shall determine the distance between two transmitting and receiving stations with high resolution.

2.3. According to the novel method, a transmission signal is generated in each transmitting and receiving station and is transmitted as a series of microwave pulses having a predefined pulse repetition frequency to the other respective transmitting and receiving station. The coincidence of pulses of the transmission signal sent by the respective transmitting and receiving station and the signal thus received is detected in each transmitting and receiving station as a coincidence event and the number of pulses transmitted and received by the respective transmission and receiving station at the time of the coincidence event is determined. The distance between the transmitting and receiving stations is then calculated on the basis of the number of the determined pulses.